United States Patent [19]

Watanabe et al.

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[54] **SEALED ACTUATOR**

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[52] **U.S. Cl.** .... 310/88; 310/68 B; 310/112

[58] **Field of Search** .... 310/68 B, 84, 310/86, 88, 89, 112, 114

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[57] **ABSTRACT**

A sealed actuator includes a motor stator having rotation-drive magnetic poles; a motor rotor arranged so as to confront magnetic pole surfaces of the motor stator while interposing a small distance therebetween and rotatably supported through roller bearings; and displacement detecting means for measuring displacement of the motor rotor. A partition wall made of a nonmagnetic metal is disposed in a clearance between the motor stator and the motor rotor, so that the inner space where the motor stator is disposed is hermetically covered. The bearings are disposed at both sides of the partition wall in the axial direction so that the load applied to the bearings are directly received by a housing. At least a part of the partition wall is reinforced by reinforcing members and a mold agent is charged into the space on the motor stator side.

24 Claims, 7 Drawing Sheets

VACUUM SIDE   ATOMOSPHERE SIDE